

WHAT IS CLAIMED IS

1. A bead release device (1) for tire removal machines (100),
comprising:
 - a movable arm (2) having a first end (3) removably associated with a
5 base (4);
 - a positionable bead release tool (6) associated with a second end (5) of
the arm (2) distant from said first end (3), to release the tire bead of a
wheel resting on a support surface (8);
 - manipulator means (10) for moving said arm (2) within a plane of swivel
10 of the arm (2) lying perpendicular to the base (4);characterized in that said first end (3) of the arm (2) is associated with the
base (4) by means of a locking and release system (12) enabling said first
end (3) of the arm (2) to undergo movement, said movement rotating said
plane of swivel of the arm (2) about an axis of rotation lying within said
15 plane of swivel and positioned substantially perpendicular to said base (4).
2. A bead release device (1) as claimed in claim 1, wherein said axis of
rotation of the plane of swivel lies in that part of the plane of swivel lying
between said locking system (12) and said bead release tool (6).
3. A bead release device (1) as claimed in claim 1, wherein said
20 locking and release system (12) comprises a cam (25) operable between
a locking position and a release position, said release position enabling
said first end (3) of the arm (2) to move.
4. A bead release device (1) as claimed in claim 3, wherein said

locking and release system (12) comprises a slider (16) able to slide within a slot (22) when said cam (25) is in its release position.

5. A bead release device (1) as claimed in claim 4, wherein said slot (22) is provided in a U-piece (19) associated with said base (4).

5 6. A bead release device (1) as claimed in claim 1, wherein said manipulator means comprise a pneumatic cylinder-piston unit (10) removably associated with said base (4) and having its piston rod (10a) associated with said arm (2), said cylinder-piston unit (10) being arranged to rotate said arm (2) between a position of approach to and a position of
10 withdrawal from the base (4).

7. A bead release device (1) as claimed in claim 6, wherein said cylinder-piston unit (10) is associated with said base (4) in such a manner as to enable the piston rod (10a) to rotate about a first axis (35) positioned substantially perpendicular to the plane of swivel of the arm (2), such that
15 said piston rod (10a) of the cylinder-piston unit (10) can substantially lie rigidly within said plane of swivel during the withdrawal and approach of the arm (2) from and to the base (4).

8. A bead release device (1) as claimed in claim 6, wherein said cylinder-piston unit (10) is associated with said base (4) in such a manner
20 as to enable the piston rod (10a) to rotate about a second axis (38) positioned perpendicular to said first axis (35) and substantially parallel to the plane of swivel of the arm (2), such that said piston rod (10a) of the cylinder-piston unit (10) can substantially lie rigidly within said plane of

swivel during the movement of the first end (3) of the arm (2).